REVISED

OPERATING DATA

FOR THE

MODEL CA-5 ADAPTER

WHEN USED WITH

MODEL 752

ROLL CHART TUBE TESTER

HICKOK

NOTE 1: (symbol "X" on Roll Chart) For dual triodes make normal leakage test first, then repeat leakage test for 2nd section with button S8 pressed down and held. Proceed with 1st section GM test with S8 released. For 2nd section test on all dual tubes, press down and hold button S8 together with button listed in PRESS column.

NOTE 2: (symbol "+" on Roll Chart) Verify shorts by setting filament switch to OFF position.

NOTE 3: (symbol "★" on Roll Chart) Approximate starting voltage for voltage regulator tubes.

NOTE 4: (symbol "†" on Roll Chart) Read 0-100 milliamperes with button S9 pressed down.

NOTE 5: (symbol "VR" on Roll Chart) For voltage regulator tubes, the figure in the MIN MUT COND (minimum mutual conductance) column indicates the nominal operating voltage.

NOTE 6: (symbol "#" on Roll Chart) Set BIAS at 100, press and hold down button indicated in the PRESS column while rotating BIAS dial counterclockwise until tube strikes.

THE HICKOK ELECTRICAL INSTRUMENT CO.

10514 DUPONT AVENUE • CLEVELAND, OHIO 44108

3200-202 REVISED

OPERATING INSTRUCTIONS

for use with

ROLL CHART TUBE TESTERS

To test tubes with the CA-5 Universal Adapter and a Roll Chart Tube Tester, proceed as follows:

a. Connect the adapter to the Roll Chart Tube Tester by inserting the test plug into the Noval socket of the Roll Chart Tube Tester.

b. Set the switches "A", "B" and "C" on the adapter to correspond with the 3-digit number in the column headed "CA5", for the tube to be tested as listed in the Operating Data book. Example: 234 is shown for 6AL11; therefore, set switch "A" on position 2, switch "B" on position 3 and switch "C" on position 4.

c. Proceed to set up the switches and controls of the Roll Chart Tube Tester as shown in the Operating Data book.

d. Place the tube to be tested into the proper socket of the adapter.

e. If the tube to be tested has a top cap, place the top cap connector of the adapter to the cap of the tube and connect the top cap connector of the Roll Chart Tube Tester on the cap connector of the test plug of the adapter cable. The proper cap connector (if any) is shown in the "NOTATIONS" column of the Operating Data book. Example: if the notation column shows "CAP = G" (grid), connect the "G" or "GRID" of the tester with the top cap connector of the Roll Chart Tube Tester to the cap connector of the test plug of the adapter cable. Note: Proper top cap connections to Models 6000 and 6005 Tube Testers are assured by setting the appropriate element selectors to position "X". Example: if "CAP = P" appears in the "NOTATIONS" column, set the plate selector to "X" regardless of the setting specified in the "SELECTORS" column.

f. Turn the Roll Chart Tube Tester on and proceed to test tube in the usual manner as shown in the manual accompanying the particular tester being used. Disregard all references to Hickok Adapter SA-11, code number 1050-177.

TUBE TYPE	FIL.	SELECTORS TESTER	CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
1AD2	1.4	1200-0000	002	0	53	SH	S6	400	CAP=P ON ADAPTER
2AH2	2.5	1200-0000	002	0	79	SH	S6	400	CAP=P ON ADAPTER
2AS2	2.5	1200-0000	002	0	81	SH	S6	400	CAP=P ON ADAPTER
2B-H5	2.0	1340-2080	103	10		X10	S4	575	
2CW4	2.0	1340-2080	103	10	---	X10	S4	575	
2DS4	2.0	1340-2080	103	9	---	X10	S4	600	
2DV4	2.0	2360-1070	203	13	---	X10	S4	700	
2EG4	2.0	1340-2080	103	18		X4	S5	625	SET =LINE ADJUST= AT 675 ON 1500 SCALE.
2N-H11	2.0	1340-2080	103	09		X10	S4	600	
2N-H12	2.0	2360-1070	203	13		X10	S4	700	
3AT2	3.0	1200-0000	002	0	86	SH	S6	400	CAP=P ON ADAPTER
3AW2	3.0	2100-0000	001	0	87	SH	S6	400	CAP=P ON ADAPTER
3BL2	3.0	1200-0000	002	0	88	SH	S6	400	CAP=P ON ADAPTER
3BM2	3.0	1200-0000	002	0	88	SH	S6	400	CAP=P ON ADAPTER.
3BS2	3.0	2100-0000	001	0	85	SH	S6	.400	
4HA7	4.3	1390-2040	203	22	---	X4	S5	475	TRIODE NO.1
	4.3	1540-2030	045	14	---	X4	S5	200	TRIODE NO.2
4HC7	4.3	1390-2040	203	14	---	X10	S5	300	TRIODE NO.1
	4.3	1540-2030	045	12	---	X1	S5	550	TRIODE NO.2
5BC3	5.0	1300-9000	000	0	40	SH	S3	650	PLATE NO.1
	5.0	1300-5000	000	0	35	SH	S3	650	PLATE NO.2
5HA7	5.0	1390-2040	203	22	---	X4	S5	475	TRIODE NO.1
	5.0	1540-2030	045	14	---	X4	S5	200	TRIODE NO.2
5HC7	5.0	1390-2040	203	14	---	X10	S5	300	TRIODE NO.1
	5.0	1540-2030	045	12	---	X1	S5	550	TRIODE NO.2
5U9	6.3	5630-7824	000	14	---	X10	S5	375	PENTODE SECT. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	6.3	5620-9010	200	30	---	X10	S5	300	TRIODE SECT.
5V9	5.0	5630-7412	000	15	---	X1	--	700	HEPTODE SECT. HOLD DOWN S1 AND PRESS S5. USE HICKOK ADAPTER SA-11 CODE NO.1050-177
	5.0	5680-1090	100	23	---	X4	S5	650	TRIODE SECT.
5X9	6.3	5630-7824	000	15	---	X10	S5	375	PENTODE SECT. USE HICKOK ADAPTER SA-11 CODE NO.1050-177
	6.3	5620-9010	200	14	---	X4	S5	750	TRIODE SECT.
6AB9	6.3	5690-7810	100	16	---	X10	S5	375	TETRODE NO.1. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	6.3	5630-1240	000	16	---	X10	S5	375	TETRODE NO.2
6AC9	6.3	1490-3287	234	11	---	X10	S5	450	PENTODE SECT.
	6.3	1200-3040	002	0	87	SH	S1	400	DIODE NO.1
	6.3	1400-2030	004	0	87	SH	S1	400	DIODE NO.2
6AC10	6.3	1390-2040	203	11	---	X10	S5	450	TRIODE NO.1
	6.3	1874-5263	048	11	---	X10	S5	450	TRIODES NO.2&3, NOTE 1
6AD10	6.3	1430-7625	004	17	---	X2	S5	550	PENTODE NO.1
	6.3	1480-3290	234	10	---	X10	S5	450	PENTODE NO.2
6AF9	6.3	5680-1970	100	16	---	X10	S5	650	PENTODE NO.1. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	6.3	5610-4320	000	12	---	X10	S5	450	PENTODE NO.2
6AF11	6.3	1540-2390	345	12	---	X10	S5	450	PENTODE SECT.
	6.3	1260-8050	002	14	---	X4	S5	700	TRIODE NO.1
	6.3	1230-4070	002	11	---	X4	S5	500	TRIODE NO.2
6AG9	6.3	1650-2394	356	14	---	X10	S5	625	PENTODE SECT.
	6.3	1250-7060	002	19	---	X4	S5	725	TRIODE SECT.
6AG11	6.3	1285-7649	002	12	---	X10	S5	525	DUAL TRIODE NOTE 1
	6.3	1600-4352	456	0	80	SH	S1	400	DUAL DIODE NOTE 1

TUBE TYPE	FIL.	SELECTORS TESTER	CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
6AH9	6.3	1350-2879	023	15		X10	S5	750	PENTODE SECT.
	6.3	1520-3040	005	29		X4	S5	630	TRIODE SECT.
6AK9	6.3	1280-5970	002	35		X4	S5	850	PENTODE SECT.
	6.3	1420-3070	234	17		X4	S5	750	TRIODE NO.1
	6.3	1430-2070	004	30		X4	S5	615	TRIODE NO.2
6AL11	6.3	1480-3290	234	19	---	X10	S5	400	PENTODE NO.1
	6.3	1530-6724	005	22	---	X2	S5	300	PENTODE NO.2
6AR11	6.3	1420-8937	234	5	---	X10	S5	550	PENTODE NO.1
	6.3	1750-2364	007	5	---	X10	S5	550	PENTODE NO.2
6AS11	6.3	1540-2390	345	15	---	X10	S5	325	PENTODE SECT.
	6.3	1260-8050	002	11	---	X10	S5	500	TRIODE NO.1
	6.3	1230-4070	002	16	---	X4	S5	600	TRIODE NO.2
6AV11	6.3	1397-2546	203	23	---	X2	S5	750	TRIODES NO.1&2, NOTE 1
	6.3	1540-2030	045	23	---	X2	S5	750	TRIODE NO.3
6AY3	6.3	4500-2090	000	0	52	SH	S3	650	
6AY11	6.3	1285-7694	002	13	---	X1	S5	650	DUAL TRIODE NOTE 1
	6.3	1600-4352	456	0	78	SH	S1	400	DUAL DIODE NOTE 1
6B10	6.3	1853-6472	008	23	---	X4	S5	475	DUAL TRIODE NOTE 1
	6.3	1300-2890	203	0	73	SH	S1	400	DUAL DIODE NOTE 1
6BA3	6.3	4500-2090	000	0	57	SH	S3	650	
6BA11	6.3	1240-6387	002	10	---	X1	S5	325	PENTODE NO.1
	6.3	1640-2385	006	10	---	X1	S5	325	PENTODE NO.2
	6.3	1490-3020	234	30	---	X2	S5	550	TRIODE SECT.
6BD11	6.3	1540-2390	345	15	---	X10	S5	450	PENTODE SECT.
	6.3	1260-8050	002	14	---	X4	S5	800	TRIODE NO.1
	6.3	1230-4070	002	14	---	X4	S5	700	TRIODE NO.2
6BE3	6.3	1300-2070	203	0	58	SH	S3	650	
6BF11	6.3	1480-3290	234	30	---	X10	S5	375	PENTODE NO.1
	6.3	1430-7625	004	17	---	X2	S5	200	PENTODE NO.2
6BH3	6.3	4500-2090	000	0	52	SH	S3	650	
6BH11	6.3	1480-2930	234	10	---	X10	S5	350	PENTODE SECT.
	6.3	1864-7352	008	15	---	X10	S5	550	DUAL TRIODE, NOTE 1
6BJ3	6.3	1300-2070	203	0	60	SH	S3	650	
6BK11	6.3	1390-2040	203	21	---	X2	S5	250	TRIODE NO.1
	6.3	1874-5263	048	20	---	X2	S5	200	DUAL TRIODE NOTE 1
6BN11	6.3	1470-3982	234	10	---	X10	S5	475	PENTODE NO.1
	6.3	1730-5426	007	10	---	X10	S5	475	PENTODE NO.2
6BS3	6.3	4500-2090	000	0	60	SH	S3	400	
6BV11	6.3	1470-2983	234	13	---	X4	S5	400	PENTODE NO.1
	6.3	1760-3452	007	13	---	X4	S5	400	PENTODE NO.2
6BW11	6.3	1430-8927	234	13		X10	S5	470	PENTODE NO.1
	6.3	1730-5426	007	10		X10	S5	600	PENTODE NO.2
6BZ3	6.3	1300-2070	203	0	77	SH	S3	400	
6C9	6.3	4570-9860	000	16	---	X4	S5	700	TETRODE NO.1
	6.3	4510-3260	600	16	---	X4	S5	700	TETRODE NO.2
6C10	6.3	1397-2546	203	14	---	X4	S5	200	TRIODES NO.1&2, NOTE 1
	6.3	1540-2030	045	14	---	X4	S5	200	TRIODE NO.3
6CA11	6.3	1480-3297	234	22		X4	S5	750	PENTODE SECT.
	6.3	1260-4050	002	14		X4	S5	750	TRIODE NO.1
	6.3	1430-2070	004	14		X4	S5	700	TRIODE NO.2
6CD3	6.3	1300-2070	203	0	63	SH	S3	650	
6CE3	6.3	1200-4070	002	0	65	SH	S3	650	
6CG3	6.3	1200-4070	002	0	78	SH	S3	400	
6CH3	6.3	4500-2090	000	0	66	SH	S3	650	
6CJ3	6.3	4500-2090	000	0	78	SH	S3	400	
6CK3	6.3	4500-2090	000	0	68	SH	S3	650	
6CL3	6.3	4500-2090	000	0	68	SH	S3	650	
6CM3	6.3	4500-2790	000	0	64	SH	S3	650	SHORT ON 4
6CW4	6.3	1340-2080	103	10	---	X10	S4	575	
6D10	6.3	1397-2546	203	15	---	X4	S5	500	TRIODES NO.1&2, NOTE 1
	6.3	1540-2030	045	15	---	X4	S5	500	TRIODE NO.3

TUBE TYPE	FIL.	SELECTORS TESTER	CA5	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
6DS4	6.3	1340-2080	103	9	---	X10	S4	600	
6DV4	6.3	2360-1070	203	13	---	X10	S4	700	
6DW4	6.3	4500-2090	000	0	55	SH	S3	650	
6EA4	6.3	1200-6050	002	0	50	SH	S1	500	CAP=G ON ADAPTER
6EF4	6.3	1200-6059	002	0	65	SH	S1	500	CAP=G ON ADAPTER
6EH4	6.3	1200-6050	002	0	50	SH	S1	500	CAP=G ON ADAPTER.
6EJ4	6.3	1200-6059	002	0	50	SH	S1	500	CAP=G ON ADAPTER.
6FJ7	6.3	1420-3090	234	20	---	X2	S5	775	TRIODE NO.1
	6.3	1230-5070	002	18	---	X10	S5	575	TRIODE NO.2
6FM7	6.3	1420-3090	234	20	---	X2	S5	300	TRIODE NO.1
	6.3	1280-5070	002	61	---	X4	S5	725	TRIODE NO.2
6FY7	6.3	1420-3090	234	21	---	X2	S5	225	TRIODE NO.1
	6.3	1230-5070	002	59	---	X10	S5	475	TRIODE NO.2
6G11	6.3	1480-3290	234	39	---	X4	S5	650	PENTODE NO.1
	6.3	1530-6724	005	20	---	X2	S5	150	PENTODE NO.2
6GA7	6.3	1240-7350	002	49	---	X4	S5	700	PENTODE SECT.
	6.3	1300-2080	023	0	43	SH	S3	400	DIODE SECT.
6GE5	6.3	1540-7230	345	50	---	X10	S5	300	
6GF5	6.3	1540-7230	345	59	---	X4	S5	625	
6GF7	6.3	4590-8010	000	20	---	X2	S5	250	TRIODE NO.1
	6.3	4520-6030	000	64	---	X10	S5	450	TRIODE NO.2
6GJ5	6.3	4560-0730	000	31	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
6GT5	6.3	4560-9730	000	31	---	X10	--	450	HOLD DOWN S1, PRESS S5
6GV5	6.3	1490-0320	234	47	---	X10	S5	350	CAP=P ON ADAPTER
6GY5	6.3	1350-0720	203	32	---	X10	--	675	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
6H85	6.3	1540-7230	345	59	---	X4	S5	625	
6HD5	6.3	1430-7920	234	52	---	X10	S5	400	
6HE5	6.3	1490-6230	234	29	---	X4	S5	750	
6HE7	6.3	1390-5280	023	58	---	X10	S5	200	PENTODE SECT.
	6.3	1300-2040	003	0	65	SH	S3	500	DIODE SECT.
6HF5	6.3	1490-0320	234	70	---	X4	S5	500	CAP=P ON ADAPTER
6HJ5	6.3	1540-7923	345	53	---	X10	S5	350	
6HS5	6.3	1520-7043	005	0	---	X20	S5	500	
6J9	6.3	4579-8610	100	15	---	X4	S5	750	TRIODES NO.1&2, NOTE 1
	6.3	4520-1030	000	15	---	X4	S5	750	TRIODE NO.3
6J10	6.3	1270-4685	002	0	---	X1	S5	500	PENTODE NO.1
	6.3	1540-9230	045	20	---	X10	S5	375	PENTODE NO.2
6J11	6.3	1430-9782	234	12	---	X4	S5	800	PENTODE NO.1
	6.3	1750-3264	007	12	---	X4	S5	800	PENTODE NO.2
6JB6	6.3	4520-0138	000	31	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
6JE6	6.3	4520-0738	000	42	---	X10	--	575	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
6JF6	6.3	4520-0738	000	36	---	X10	--	550	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
6JG6	6.3	4520-9736	000	36	---	X10	--	550	HOLD DOWN S1, PRESS S5
6JM6	6.3	1650-0324	406	48	---	X10	S5	350	CAP=P ON ADAPTER
6JN6	6.3	1650-7324	056	48	---	X10	S5	350	
6JR6	6.3	4520-9136	000	79		X2	S5	570	
6JS6A	6.3	1650-0324	006	68	---	X4	S5	600	CAP=P ON ADAPTER
6JT6	6.3	4520-9736	000	47	---	X10	S5	275	
6JU6	6.3	4520-0138	000	79	---	X2	S5	575	CAP=P ON ADAPTER
6JZ6	6.3	1650-0324	006	63	---	X10	S5	300	CAP=P ON ADAPTER
6JZ8	6.3	1270-4890	002	34	---	X10	S5	300	PENTODE SECT.
	6.3	1530-2040	345	32	---	X2	S5	450	TRIODE SECT.
6K11	6.3	1390-2048	203	25	---	X2	S5	675	TRIODE NO.1
	6.3	1874-5263	048	14	---	X4	S5	200	TRIODE NO.2&3, NOTE 1
6KD6	6.3	1650-0324	006	75	---	X4	S5	375	CAP=P ON ADAPTER

TUBE TYPE	FIL.	SELECTORS TESTER	CA5	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
6KM6	6.3	4520-0738	000	72	---	X4	S5	350	CAP=P ON ADAPTER
6KN6	6.3	1650-0324	006	68	---	X4	S5	500	CAP=P ON ADAPTER
6KY8	6.3	4520-6730	000	39	---	X10	S5	300	PENTODE SECT.
	6.3	4590-8010	000	16	---	X2	S5	350	TRIODE SECT.
6LB6	6.3	1650-0324	006	33		X10	S4	750	CAP=P ON ADAPTER.
6LF6	6.3	1650-0324	006	77		X4	S5	790	CAP=P ON ADAPTER.
6LG6	6.3	1350-0240	023	73		X10	S5	420	CAP=P ON ADAPTER.
6LR6	6.3	1650-0324	006	80		X4	S5	2500	CAP=P ON ADAPTER
6LR8	6.3	4520-6730	000	40	---	X10	S5	350	PENTODE SECT.
	6.3	4590-8010	000	21	---	X4	S5	350	TRIODE SECT.
6LU8	6.3	1260-4890	002	40	---	X10	S5	350	PENTODE SECT.
	6.3	1530-2040	345	21	---	X4	S5	350	TRIODE SECT.
6M11	6.3	1620-5340	456	10	---	X10	S5	550	PENTODE SECT.
	6.3	1285-7694	002	16	---	X10	S5	375	DUAL TRIODE NOTE 1
6MD8	6.3	4560-3070	000	27	---	X4	S5	575	TRIODE NO.1
	6.3	4589-2170	000	27	---	X4	S5	575	TRIODE NO.2&3, NOTE 1
6MF8	6.3	1270-4890	002	34	---	X4	S5	750	PENTODE SECT.
	6.3	1530-2040	345	21	---	X4	S5	750	TRIODE SECT.
6MJ8	6.3	1540-2030	045	30		X4	S5	600	TRIODE NO.1.
	6.3	1528-4630	205	30		X4	S5	600	TRIODE NO.2+3. NOTE 1.
6MN8	6.3	1280-6030	002	21		X4	S5	750	TRIODE NO.1
	6.3	1756-4230	567	21		X4	S5	750	TRIODE NO.2+3. NOTE 1
6N-H10	6.3	1340-2080	103	20	59	SH	S5	1700	
6N-L7	6.3	1340-2080	103	47		X1	S5	570	
6Q11	6.3	1390-2048	203	25	---	X2	S5	675	TRIODE NO.1
	6.3	1874-5263	048	14	---	X4	S5	200	TRIODE NO.2&3, NOTE 1
6T9	6.3	1480-3290	234	12	---	X10	S5	450	PENTODE SECT.
	6.3	1340-2050	003	16	---	X4	S5	200	TRIODE SECT.
6T10	6.3	1480-3290	234	20	---	X10	S5	375	PENTODE NO.1
	6.3	1430-7625	004	15	---	X2	S5	200	PENTODE NO.2
6U9	6.3	5630-7824	000	14	---	X10	S5	375	PENTODE SECT. USE HICKOK ADAPTER SA-11 CODE NO.1050-177
	6.3	5620-9010	200	30	---	X10	S5	300	TRIODE SECT.
6U10	6.3	1796-5243	567	27	---	X2	S5	625	TRIODES NO1&3, NOTE 1
	6.3	1270-5060	002	20	---	X2	S5	175	TRIODE NO.2
6V9	6.3	5630-7412	000	15	---	X1	--	700	HEPTODE SECT. HOLD DOWN S1 AND PRESS S5. USE HICKOK ADAPTER SA-11 CODE NO.1050-177
	6.3	5680-1090	100	23	---	X4	S5	650	TRIODE SECT.
6X9	6.3	5630-7824	000	15	---	X10	S5	375	PENTODE SECT. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	6.3	5620-9010	200	14	---	X4	S5	750	TRIODE SECT.
6Y9	6.3	5680-1970	100	16	---	X10	S5	650	PENTODE NO.1. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	6.3	5610-4320	000	12	---	X10	S5	450	PENTODE NO.2
6Y10	6.3	1480-3290	234	21	---	X4	S5	750	PENTODE NO.1
	6.3	1430-7625	004	13	---	X2	S5	575	PENTODE NO.2
6Z10	6.3	1270-4685	002	0	---	X1	S5	500	PENTODE NO.1
	6.3	1540-9230	045	20	---	X10	S5	375	PENTODE NO.2
8AC9	7.5	1490-3287	234	11	---	X10	S5	450	PENTODE SECT.
	7.5	1200-3040	002	0	87	SH	S1	400	DIODE NO.1
	7.5	1400-2030	004	0	87	SH	S1	400	DIODE NO.2
8AC10	10.0	1390-2040	203	11		X4	S5	650	TRIODE NO.1 SET =LINE TEST= AT 41 ON 100 SCALE
	10.0	1874-5263	048	11		X4	S5	650	TRIODE NO.2+3. NOTE 1
8AR11	7.5	1420-8937	234	5	---	X10	S5	550	PENTODE NO.1
	7.5	1750-2364	007	5	---	X10	S5	550	PENTODE NO.2

TUBE TYPE	FIL.	SELECTORS TESTER	SELECTORS CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
8B10	7.5	1853-6472	008	24	---	X2	S5	600	DUAL TRIODE)SET =LINE NOTE 1)ADJUST= TO
	7.5	1300-2890	203	0	70	SH	S1	400	DUAL DIODE)625 ON 1500 NOTE 1)SCALE
8BA11	7.5	1240-6387	002	10	---	X1	S5	325	PENTODE NO.1
	7.5	1640-2385	006	10	---	X1	S5	325	PENTODE NO.2
	7.5	1490-3020	234	30	---	X2	S5	550	TRIODE SECT.
8BM11	7.5	1430-7928	234	10	---	X10	S5	400	PENTODE NO.1
	7.5	1760-2354	007	12	---	X10	S5	350	PENTODE NO.2
8BN11	7.5	1470-3982	234	10	---	X10	S5	475	PENTODE NO.1
	7.5	1730-5426	007	10	---	X10	S5	475	PENTODE NO.2
8BQ11	7.5	1420-8937	234	8	---	X10	S5	500	PENTODE NO.1
	7.5	1750-2364	007	8	---	X10	S5	630	PENTODE NO.2
8BU11	7.5	1480-2930	234	10	---	X4	S5	700	PENTODE SECT.
	7.5	1864-7352	008	16	---	X10	S5	450	DUAL TRIODE NOTE 1
8U9	7.5	5630-7824	000	14	---	X10	S5	375	PENTODE SECT. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	7.5	5620-9010	200	30	---	X10	S5	300	TRIODE SECT.
8X9	7.5	5630-7824	000	15	---	X10	S5	375	PENTODE SECT. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	7.5	5620-9010	200	14	---	X4	S5	750	TRIODE SECT.
9BJ11	10.0	1430-7928	234	10	---	X2	S5	500	PENTODE NO.1
	10.0	1760-2354	007	11	---	X10	S5	450	PENTODE NO.2
9V9	10.0	5630-7412	000	15	---	X1	--	700	HEPTODE SECT. HOLD DOWN S1 AND PRESS S5 USE HICKOK ADAPTER SA-11 CODE NO.1050-177
	10.0	5680-1090	100	23	---	X4	S5	650	TRIODE SECT.
10AL11	10.0	1480-3290	234	19	---	X10	S5	400	PENTODE NO.1
	10.0	1530-6724	005	22	---	X2	S5	300	PENTODE NO.2
10GF7	10.0	4590-8010	000	20	---	X2	S5	250	TRIODE NO.1
	10.0	4520-6030	000	64	---	X10	S5	450	TRIODE NO.2
10J10	10.0	1270-4685	002	0	---	X1	S5	500	PENTODE NO.1
	10.0	1540-9230	045	20	---	X10	S5	375	PENTODE NO.2
11AR11	12.6	1420-8937	234	5	---	X10	S5	525	PENT. NO.1)SET =LINE)ADJUST=
	12.6	1750-2364	007	5	---	X10	S5	525	PENT. NO.2)TO 675 ON)1500 SCALE.
11BQ11	12.6	1420-8937	234	10	---	X10	S5	350	PENT. NO.1)SET=LINE
	12.6	1750-2364	007	10	---	X10	S5	375	PENT. NO.2)ADJUST=TO 86)ON 200 SCALE.
11BT11	10.0	1540-2386	345	10	---	X20	S5	475	PENTODE SECT.
	10.0	1250-7060	002	12	---	X4	S5	850	TRIODE NO.1
	10.0	1230-9040	002	20	---	X4	S5	750	TRIODE NO.2
11CA11	10.0	1480-3297	234	22		X4	S5	750	PENTODE SECT.
	10.0	1260-4050	002	14		X4	S5	750	TRIODE NO.1
	10.0	1430-2070	004	14		X4	S5	700	TRIODE NO.2
11FY7	10.0	1420-3090	234	21	---	X2	S5	225	TRIODE NO.1
	10.0	1230-5070	002	59	---	X10	S5	475	TRIODE NO.2
11Y9	10.0	5680-1970	100	16	---	X10	S5	650	PENTODE NO.1 USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	10.0	5610-4320	000	12	---	X10	S5	450	PENTODE NO.2
12AE10	12.6	1480-3290	234	25	---	X4	S5	425	PENTODE NO.1
	12.6	1430-7625	004	23	---	X2	S5	250	PENTODE NO.2
12AL11	12.6	1480-3290	234	19	---	X10	S5	400	PENTODE NO.1
	12.6	1530-6724	005	22	---	X2	S5	300	PENTODE NO.2
12AX3	12.6	1200-4070	002	0	40	SH	S3	650	
12AY3	12.6	4500-2090	000	0	52	SH	S3	650	

TUBE TYPE	FIL.	SELECTORS TESTER	SELECTORS CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
12BE3	12.6	1300-2070	203	0	58	SH	S3	650	
12BF11	12.6	1480-3290	234	30	---	X10	S5	375	PENTODE NO.1
	12.6	1430-7625	004	17	---	X2	S5	200	PENTODE NO.2
12BS3	12.6	4500-2090	000	0	60	SH	S3	400	
12BT3	12.6	1200-4070	002	0	60	SH	S3	650	
12BV11	12.6	1470-2983	234	13	---	X4	S5	400	PENTODE NO.1
	12.6	1760-3452	007	13	---	X4	S5	400	PENTODE NO.2
12CK3	12.6	4500-2090	000	0	68	SH	S3	650	
12CL3	12.6	4500-2090	000	0	68	SH	S3	650	
12DW4A	12.6	4500-2090	000	0	55	SH	S3	650	
12G11	12.6	1480-3290	234	39	---	X4	S5	650	PENTODE NO.1
	12.6	1530-6724	005	20	---	X2	S5	150	PENTODE NO.2
12GE5	12.6	1540-7230	345	50	---	X10	S5	300	
12GJ5	12.6	4560-0730	000	31	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
12GT5	12.6	4560-9730	000	31	---	X10	--	450	HOLD DOWN S1, PRESS S5
12GV5	12.6	1490-0320	234	47	---	X10	S5	350	CAP=P ON ADAPTER
12HE7	12.6	1390-5280	023	58	---	X10	S5	200	PENTODE SECT.
	12.6	1300-2040	003	0	65	SH	S3	500	DIODE SECT.
12JB6	12.6	4520-0138	000	31	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
12JM6	12.6	1650-7324	056	48		X10	S5	350	
12JS6A	12.6	1650-0324	006	68	---	X4	S5	600	CAP=P ON ADAPTER
12JT6	12.6	4520-9736	000	47	---	X10	S5	275	
12MD8	12.6	4560-3070	000	27	---	X4	S5	575	TRIODE NO.1
	12.6	4589-2170	000	27	---	X4	S5	575	TRIODE NO.2&3, NOTE 1
12T10	12.6	1480-3290	234	20	---	X10	S5	375	PENTODE NO.1
	12.6	1430-7625	004	15	---	X2	S5	200	PENTODE NO.2
13CW4	12.6	1340-2080	103	10	---	X10	S4	575	
13FM7	12.6	1420-3090	234	20	---	X2	S5	300	TRIODE NO.1
	12.6	1280-5070	002	61	---	X4	S5	725	TRIODE NO.2
13GF7	12.6	4590-8010	000	20	---	X2	S5	250	TRIODE NO.1
	12.6	4520-6030	000	64	---	X10	S5	450	TRIODE NO.2
13J10	12.6	1270-4685	002	0	---	X1	S5	500	PENTODE NO.1
	12.6	1540-9230	045	20	---	X10	S5	375	PENTODE NO.2
13JZ8	12.6	1270-4890	002	34		X10	S5	300	PENTODE SECT.
	12.6	1530-2040	345	32		X2	S5	450	TRIODE SECT.
13V10	12.6	1480-3290	234	26	---	X10	S5	300	PENTODE NO.1
	12.6	1430-7625	004	26	---	X4	S5	150	PENTODE NO.2
13Z10	12.6	1270-4685	002	0	---	X1	S5	500	PENTODE NO.1
	12.6	1540-9230	045	20	---	X10	S5	375	PENTODE NO.2
14BL11	12.6	1540-2380	345	13	---	X10	S5	625	PENTODE SECT.
	12.6	1250-7060	002	11	---	X10	S5	375	TRIODE NO.1
	12.6	1230-9040	002	18	---	X10	S5	450	TRIODE NO.2
14BR11	12.6	1620-5340	056	10	---	X10	S5	500	PENTODE SECT.
	12.6	1280-6050	002	13	---	X10	S5	400	TRIODE NO.1
	12.6	1320-9070	203	14	---	X10	S5	300	TRIODE NO.2
15AB9	17.0	5690-7810	100	16		X10	S5	375	TETRODE NO.1 USE HICKOK ADAPTER.SA-11 CODE NO. 1050-177.
	17.0	5630-1240	000	16		X10	S5	375	TETRODE NO.2. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177.
15AF11	17.0	1540-2390	345	12	---	X10	S5	450	PENT. SECT.)SET =LINE
	17.0	1260-8050	002	13	---	X4	S5	825	TRIODE NO.1)ADJUST= AT
	17.0	1230-4070	002	13	---	X4	S5	625	TRIODE NO.2)725 ON 1500)SCALE.
15BD11	12.6	1540-2390	345	19	---	X10	S5	450	PENT. SECT.)SET =LINE
	12.6	1260-8050	002	15	---	X4	S5	800	TRIODE NO.1)ADJUST= AT
	12.6	1230-4070	002	18	---	X4	S5	700	TRIODE NO.2)110 ON 200)SCALE.

TUBE TYPE	FIL.	SELECTORS TESTER	CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
15FM7	12.6	1420-3090	234	23	---	X2	S5	300	TRIODE NO.1)SET =LINE
	12.6	1280-5070	002	72	---	X4	S5	725	TRIODE NO.2)ADJUST= AT)110 ON 200)SCALE.
15FY7	17.0	1420-3090	234	20	---	X2	S5	225	TRIODE NO.1)SET =LINE
	17.0	1230-5070	002	55	---	X10	S5	475	TRIODE NO.2)ADJUST= AT)725 ON 1500)SCALE.
15KY8	17.0	4520-6730	000	39	---	X10	S5	300	PENT. SECT.)SET =LINE
	17.0	4590-8010	000	16	---	X2	S5	350	TRIODE SECT.)ADJUST= AT)700 ON 1500)SCALE.
16AK9	17.0	1280-5970	002	35		X4	S5	850	PENTODE SECT.
	17.0	1420-3070	234	17		X4	S5	570	TRIODE NO.1
	17.0	1430-2070	004	30		X2	S5	615	TRIODE NO.2
16GY5	17.0	1490-0320	234	32	---	X10	--	675	CAP=P ON ADAPTER HOLD S1 AND PRESS S5
16KA6	17.0	1650-0324	206	62	---	X10	S5	300	CAP=P ON ADAPTER
16Y9	17.0	5680-1970	100	16	---	X10	S5	650	PENTODE NO.1 USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	17.0	5610-4320	000	12	---	X10	S5	450	PENTODE NO.2
17AB9	17.0	5690-7810	100	16	---	X10	S5	375	TETRODE NO.1. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	17.0	5630-1240	000	16	---	X10	S5	375	TETRODE NO.2
17AB10	17.0	1270-4685	002	0	---	X1	S5	500	LIMITER GRID
	17.0	1250-4687	002	0	---	X1	S5	525	QUADRATURE GRID
	17.0	1540-9230	045	35	---	X4	S5	700	PENTODE NO.2
17AX3	17.0	1200-4070	002	0	40	SH	S3	650	
17AY3	17.0	4500-2090	000	0	52	SH	S3	650	
17BE3	17.0	1300-2070	203	0	58	SH	S3	650	
17BF11	17.0	1480-3290	234	30	---	X10	S5	375	PENTODE NO.1
	17.0	1430-7625	004	17	---	X2	S5	200	PENTODE NO.2
17BH3	17.0	4500-2090	000	0	52	SH	S3	650	
17BS3	17.0	4500-2090	000	0	60	SH	S3	400	
17BZ3	17.0	1300-2070	203	0	77	SH	S3	400	
17C9	17.0	4570-9860	000	16	---	X4	S5	700	TETRODE NO.1
	17.0	4510-3260	600	16	---	X4	S5	700	TETRODE NO.2
17CK3	17.0	4500-2090	000	0	68	SH	S3	650	
17CL3	17.0	4500-2090	000	0	68	SH	S3	650	
17DW4A	17.0	4500-2090	000	0	68	SH	S3	650	
17GE5	17.0	1540-7230	345	26	---	X10	--	550	HOLD DOWN S1, PRESS S5
17GJ5	17.0	4560-0730	000	31	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
17GT5	17.0	4560-9730	000	31	---	X10	--	450	HOLD DOWN S1, PRESS S5
17GV5	17.0	1490-0320	234	27	---	X10	--	525	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
17JB6	17.0	4520-0138	000	31	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
17JG6A	17.0	4520-9736	000	36	---	X10	--	550	HOLD DOWN S1, PRESS S5
17JM6	17.0	1650-0324	406	48	---	X10	S5	350	CAP=P ON ADAPTER
17JN6	17.0	1650-7324	056	48	---	X10	S5	350	
17JT6	17.0	4520-9736	000	47	---	X10	S5	275	
17JZ8	17.0	1270-4890	002	35	---	X4	S5	725	PENTODE SECT.
	17.0	1530-2040	345	32	---	X2	S5	400	TRIODE SECT.
17LD8	17.0	4520-6730	000	41	---	X4	S5	700	PENTODE SECT.
	17.0	4590-8010	000	32	---	X2	S5	450	TRIODE SECT.
17X10	17.0	1270-4685	002	0	---	X1	S5	500	LIMITER GRID
	17.0	1250-4687	002	0	---	X1	S5	525	QUADRATURE GRID
	17.0	1540-9230	045	35	---	X4	S5	700	PENTODE NO.2

TUBE TYPE	FIL.	SELECTORS TESTER	CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
19CG3	20.0	1200-4070	002	0	78	SH	S3	400	
1909	20.0	4510-3276	700	10	---	X4	S5	650	PENTODE SECT.
	20.0	4580-9076	000	15	---	X10	S5	400	TRIODE SECT.
21GY5	20.0	1350-0720	203	32	---	X10	--	675	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
21HB5	20.0	1540-7230	345	59	---	X4	S5	625	
21HD5	20.0	1430-7920	234	52	---	X10	S5	400	
21HJ5	20.0	1540-7923	345	53	---	X10	S5	350	
21JV6	20.0	1650-7324	456	60	---	X10	S5	325	
21JZ6	20.0	1650-0324	006	63	---	X10	S5	300	CAP=P ON ADAPTER
21KA6	20.0	1650-0324	206	62	---	X10	S5	300	CAP=P ON ADAPTER
21LG6	20.0	1350-0240	023	73		X10	S5	420	CAP=P ON ADAPTER.
21LR8	20.0	4520-6730	000	40	---	X10	S5	350	PENTODE SECT.
	20.0	4590-8010	000	21	---	X4	S5	350	TRIODE SECT.
21LU8	20.0	1260-4890	002	40	---	X10	S5	350	PENTODE SECT.
	20.0	1530-2040	345	21	---	X4	S5	350	TRIODE SECT.
22BH3	20.0	4500-2090	000	0	52	SH	S3	650	SET=LINE ADJUST= TO 850 ON 1500 SCALE.
22BW3	25.0	1300-2070	203	0	49	SH	S3	650	
22JF6	20.0	4520-0738	000	36	---	X10	--	550	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
22JG6	20.0	4520-9736	000	36	---	X10	--	550	HOLD DOWN S1, PRESS S5
22JR6	20.0	4520-9136	000	79		X2	S5	570	
22JU6	20.0	4520-0738	000	79	---	X2	S5	575	CAP=P ON ADAPTER
22KM6	20.0	4520-0738	000	72	---	X4	S5	350	CAP=P ON ADAPTER
23JS6A	25.0	1650-0324	006	68		X4	S5	600	CAP=P ON ADAPTER.
23Z9	25.0	1280-5970	002	40	---	X10	S5	300	PENTODE SECT.
	25.0	1420-3070	234	20	---	X4	S5	550	TRIODE NO.1
	25.0	1430-2070	004	30	---	X4	S5	350	TRIODE NO.2
24BF11	25.0	1480-3290	234	30		X10	S5	440	PENTODE NO.1.
	25.0	1430-7625	004	19		X2	S5	285	PENTODE NO.2.
24GA7	25.0	1240-7350	002	49	---	X4	S5	700	PENTODE SECT.
	25.0	1300-2080	023	0	43	SH	S3	400	DIODE SECT.
24JE6A	25.0	4520-0738	000	42	---	X10	--	575	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
24JZ8	25.0	1270-4890	002	40		X10	S5	425	PENTODE SECT.
	25.0	1530-2040	345	34		X2	S5	500	TRIODE SECT.
25CG3	25.0	1200-4070	002	0	78	SH	S3	400	
25CM3	25.0	4500-2790	000	0	64	SH	S3	650	
28HD5	25.0	1430-7920	234	52	---	X10	S5	400	
30AG11	35.0	1258-6749	002	11	---	X10	S5	525	DUAL TRIODE. SET =LINE ADJUST= TO 650 ON 1500 SCALE.NOTE 1
	35.0	1600-3425	456	0	78	SH	S1	400	DUAL DIODE.NOTE 1
30HJ5	25.0	1540-7923	345	53	---	X10	S5	350	
30KD6	35.0	1650-0324	006	75		X4	S5	750	CAP=P ON ADAPTER. SET =LINE ADJUST= TO READ 41 ON 100 SCALE.
31JS6A	35.0	1650-0324	006	68	---	X4	S5	600	CAP=P ON ADAPTER
32GA7	35.0	1240-7350	002	49	---	X4	S5	700	PENTODE SECT.
	35.0	1300-2080	023	0	43	SH	S3	400	DIODE SECT.
33GT7	35.0	1430-5280	234	34	---	X10	--	450	PENTODE SECT. HOLD DOWN S1, PRESS S5
	35.0	1300-2040	003	0	76	SH	S3	400	TRIODE SECT.
33GY7	35.0	1420-5380	234	34	---	X10	--	450	PENTODE SECT. HOLD DOWN S1, PRESS S5
	35.0	1300-2040	003	0	76	SH	S3	400	DIODE SECT.
33JV6	35.0	1650-7324	456	60	---	X10	S5	325	
34CD3	35.0	1300-2070	203	0	63	SH	S3	650	
34CE3	35.0	1200-4070	002	0	65	SH	S3	650	

TUBE TYPE	FIL.	SELECTORS TESTER	SELECTORS CAS	BIAS	SHUNT	MULT	PUSH	MIN MUT.COND	NOTATIONS
34CM3	35.0	4500-2790	000	0	64	SH	S3	650	
35LR6	35.0	1650-0324	006	80		X4	S5	2500	CAP=P ON ADAPTER
36KD6	35.0	1650-0324	006	75		X4	S5	375	CAP=P ON ADAPTER
38HE7	35.0	1390-5280	023	65	---	X4	S5	500	PENT. SECT.
	35.0	1300-2040	003	0	59	SH	S3	650	DIODE SECT.
38HK7	35.0	1390-5280	023	60	---	X4	S5	625	PENTODE SECT.
	35.0	1300-2040	003	0	75	SH	S3	400	DIODE SECT.
40KD6	35.0	1650-0324	006	75	---	X4	S5	375	CAP=P ON ADAPTER
42KN6	50.0	1650-0324	006	64	---	X10	S5	300	CAP=P ON ADAPTER. SET =LINE ADJUST= TO 86 ON 200 SCALE.
53HK7	50.0	1390-5280	023	60		X4	S5	625	PENTODE SECT.
	50.0	1300-2040	003	0	75	SH	S3	400	DIODE SECT.
58HE7	50.0	1390-5280	023	58	---	X10	S5	200	PENTODE SECT.
	50.0	1300-2040	003	0	65	SH	S3	500	DIODE SECT.
7586	6.3	1340-2080	103	15	---	X10	S4	600	
7587	6.3	1340-0280	103	10	---	X10	--	450	CAP=P ON ADAPTER HOLD DOWN S1, PRESS S5
7868	6.3	4560-9730	000	11	---	X10	S5	525	
7895	6.3	1340-2080	103	16	---	X10	S5	525	
7984	12.6	1520-3490	245	46	---	X10	S5	350	
8056	6.3	1340-2080	103	10	73	SH	S1	650	MAKE NO GAS TEST
8058	6.3	1300-0020	103	13	---	X10	S5	625	CAP=P,SHELL=G ON ADAPTER
8149	12.6	1320-7890	203	50	---	X4	S5	700	
8150	12.6	1320-0860	203	50	---	X4	S5	700	CAP=P ON ADAPTER
8156	12.6	1420-3760	204	31	---	X4	S5	625	
8203	6.3	1340-2080	103	26	---	X10	S5	300	
8393	12.6	1340-2080	103	24	---	X10	S5	500	
8458	12.6	4530-8720	000	13		X4	S5	500	TETRODE NO.1.
	12.6	4510-6720	000	13		X4	S5	500	TETRODE NO.2.
8628	6.3	1340-2080	103	12	---	X1	S4	625	
ECC2000	6.3	5680-7091	000	24	---	X20	S5	450	TRIODE NO.1. USE HICKOK ADAPTER SA-11 CODE NO. 1050-177
	6.3	5630-4021	400	24	---	X20	S5	450	TRIODE NO.2
H-1112	2.0	1340-0280	103	10		X10		450	CAP=P ON ADAPTER. HOLD DOWN S1, PRESS S5.
H-1208	6.3	1340-2080	103	15		X10	S4	600	
N30EL	6.3	BW-5032-4	006	77		X4	S5	790	CAP=P ON ADAPTER.